

Copy Others' Code – Modules, Packages and Libraries

What are Modules

Module is a file which contains other people's python code. Others write tens of thousands of lines of code and store it as a module. We then use it with one line of code.

What are Packages

A package is a collection of modules.

What are Libraries

Packages and Libraries are the same thing conceptually. We shall use these 2 phrases interchangeably.

Anyone can create a library! Yes, including you!

Examples of Libraries/Modules

These are the common ones we will use for almost every project in this course:

Numpy: Helps us do math and statistical analysis (Library)

Pandas: Helps us do math and statistical analysis more conveniently (Library)

Matplotlib: Helps us plot graphs (Library)

Datetime: Helps us manage date and time data (Module)

Time: Helps us manage time data in a more in-depth way than Datetime (Module)

Some others:

Scrapy: Helps us scrap data from websites (Library)

BeautifulSoup: Helps us manage the data we scrap from websites (Library)

Pygame: Helps us develop 2d games (Library)

Calling a Library

Before we can use these libraries/modules, we have to call them using code. We just need to do it once per notebook project.

If you shut your Jupyter Notebook down and reopen it, you need to call them again.

This is the standard code we use for almost every project to call our 5 common libraries/modules.

```
import numpy as np # data science library
import pandas as pd # a more user-friendly data science library
import matplotlib.pyplot as plt # plotting/charting library
%matplotlib inline
# shows charts directly on our Jupyter Notebook
import datetime # library for managing date and time
import time # library for managing time
```

You can find them in this Chapter's Dropbox:

<https://www.dropbox.com/sh/6qm09f5wazow5l7/AAC0zxtQ1CvkSbAD1SHyhcxMa?dl=0>

Look for the file titled "Code Libraries.ipynb".

Pre-installed vs Installable Libraries

Some libraries are pre-installed when you installed Anaconda.

Others, we need to install manually.

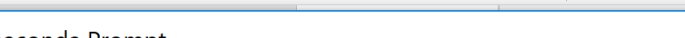
How do we know which libraries require installing? Try using the libraries, if you get an error saying you don't have it. Then you need to install it.

Installing a Library

1. Open Anaconda prompt
2. Type "conda install XXX" where XXX is the name of the library. That's all.

For example, we install a library called Quandl. Quandl is a website that provides financial data.

1. I google "install quandl in anaconda". Click on the first link (Anaconda's website): <https://anaconda.org/anaconda/quandl>
2. Copy the code. Type it in Anaconda



The screenshot shows a Windows terminal window titled "Anaconda Prompt". The command prompt is at the root of the C: drive. The user has entered the command `conda install -c anaconda quandl` to install the Quandl package from the anaconda channel. The command is shown in a light blue font on a black background.

Ending notes

You don't have to call or install anything now. During our coding lectures, we'll ask you to do it when you need to.